9. (Amended) A method for frequency modulating a laser light signal with an electrical signal, said method comprising the steps of:

providing a laser cavity with a length and width, the laser cavity providing a lasing condition;

producing laser light within the laser cavity, the laser light propagating in a direction substantially parallel to the length dimension of the laser cavity;

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maintaining the lasing condition with energy applied to a gain medium within said laser cavity;

applying the electrical signal to said laser cavity to produce an electric field uniformly and simultaneously changing the index of refraction along the length of the laser cavity in proportion to the amplitude of the electrical signal; and

transmitting the laser light out of the laser cavity to provide a frequency-modulated laser light signal

wherein said electric field propagates in a direction substantially perpendicular to the direction of propagation of the laser light.

24. (New) A laser apparatus comprising:

a laser cavity comprising electrically sensitive material, said laser cavity having longitudinally coincident gain and phase modulation sections, said laser cavity generating laser light, said laser light having a direction of propagation; and,

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a traveling wave structure disposed to propagate an electric field transverse to the direction of propagation of the laser light,

wherein the traveling wave structure applies the electric field uniformly across said laser cavity to uniformly change an index of refraction of said electrically sensitive material.

25. (New) The laser apparatus according to Claim 24, wherein said traveling wave structure comprises at least one element selected from the group of elements comprising: a microstrip, a stripline, a coplanar strip, a slotline, a coplanar waveguide, and a rectangular waveguide.

A2 end

26. (New) The laser apparatus according to Claim 24, wherein said traveling wave structure comprises a tapered structure having a maximum width adjacent said laser cavity.